

REMARKS

I. INTRODUCTION

In response to the Office Action dated April 20, 2007, no claims have been canceled, amended or added. Claims 1-3 and 5-27 are in the application. Re-examination and re-consideration of the application is requested.

II. PRIOR ART REJECTIONS

On pages (2) and (3) of the Office Action, claims 1, 5 and 27 are rejected under 35 U.S.C. §102(b) as being anticipated by the publication entitled "A 2.5-Gbit/s Return-to Zero Integrated DBR Laser/Modulator Transmitter" (Raybon).

On pages (3) and (4) of the Office Action, claim 7 is rejected under 35 U.S.C. §103(a) over Raybon in view of U.S. Patent No. 6,320,688 (Westbrook).

However, on page (4) of the Office Action, claims 2-3, 6 and 8 were indicated as being allowable, if rewritten in independent form including the all of the limitations of the base claim and any intervening claims.

Applicants' attorney acknowledges the indication of allowable claims, but nonetheless traverses the rejections. Applicants' attorney respectfully submits that the rejected claims are patentable over the references. Specifically, Applicants' claims recite limitations not shown in the references.

For example, Raybon merely describes a distributed feedback (DFB) laser integrated with an electro-absorption modulator (EAM). Applicants' attorney has reviewed Raybon in detail, but can find nothing therein that supports the Office Action's assertion that FIG. 1 of Raybon shows the EAM using a common wave guide with the DFB laser, or that the EAM does not use MQWs and relies solely on Franz-Keldysh effects for modulation. Indeed, Raybon provides no detailed description of the waveguide, or any discussion of whether the EAM does not include quantum well structures (and the mechanism of quantum-confined Stark effect is typically used in EAMs). Consequently, Applicants' attorney submits that the Office Action's assertions are incorrect.

Applicants' invention, on the other hand, comprises a tunable laser source including a widely tunable laser including MQWs on top of a common waveguide, wherein the EAM also

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uses the common waveguide, but without quantum-wells, and instead using Franz-Keldysh effects.

Note also that Raybon does not describe a widely-tunable laser (as that term is defined in Applicants' specification). Instead, Raybon uses what one of skill in the art would consider a "narrowly tunable" laser. In the prior art, such as shown by Raybon, it was not thought possible to use EAMs with widely-tunable lasers, because EAM modulators that use MQWs do not operate over a sufficient optical wavelength range.

Thus, the Raybon reference does not teach or suggest Applicants' claimed invention as recited in independent claim 1. Moreover, the various elements of Applicants' claimed invention together provide operational advantages over the Raybon reference. In addition, Applicants' claimed invention solves problems not recognized by the Raybon reference.

The Westbrook reference fails to overcome the deficiencies of the Raybon reference. Recall that the Westbrook reference was cited only against dependent claim 7, and only for teaching a blocking junction between a laser and a modulator.

Consequently, Applicants' attorney submits that independent claim 1 is allowable over both the Raybon and Westbrook references, taken individually or in combination. Further, dependent claims 2-8 are submitted to be allowable over the Raybon and Westbrook references in the same manner, because they are dependent on independent claim 1, and thus contain all the limitations of the independent claim. In addition, dependent claims 2-8 recite additional novel elements not shown by the Raybon and Westbrook references.

III. CONCLUSION

In view of the above, it is submitted that this application is now in good order for allowance and such allowance is respectfully solicited.

Should the Examiner believe minor matters still remain that can be resolved in a telephone interview, the Examiner is urged to call Applicants' undersigned attorney.


Respectfully submitted,

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